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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/907,687	08/08/1997	MARC J. SABOURIN	AZNDR/346/US	8583

7590 01/13/2004  
ALIX, YALE & RISTAS, LLP  
750 MAIN STREET  
HARTFORD, CT 061032721

EXAMINER
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ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 01/13/2004

40

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/907,687

Applicant(s)

SABOURIN

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8-6-2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,7,23-27 and 29-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 7, 23-27, 29, 30-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Claims 2, 7, 23-27, 29 and 31-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Ap[plicant has argued that the term psi stands for psig. This is supported by the Figures and Tables in the specification. However, the claims would be clearer to reflect this. This would not be new matter.

Claims 36-40 are allowed over the art of record and would be allowable if "psi" is changed to "psig".

Claims 2, 7, 23-27, 29 and 31- 35 are rejected under 35 U.S.C. 103(a) as obvious over CEDERQUIST et al in view of LUNAN et al with or without PRUSAS et al or EP 0 034 560 or MINTON.

CEDERQUIST et al teaches conditioning lignocellulosic fiber material (2) with saturated steam (17) at a temperature of 100 °C which would have a corresponding steam pressure of 15 psi, compressing the material (3) under the same steam conditions, e.g. 100 °C and 15 psi, to remove water to a dryness of at least 50%, subsequent to the step of compressing preheating the material in an environment of saturated steam at a temperature of 130-200 °C (6,7), having corresponding pressure of 3-16 kgs/cm<sup>2</sup> or 27-213 psig, and immediately following the preheating refining the material to form a pulp. A temperature of 200 °C would be above the glass transition temperature. It would obvious to use a compression ratio necessary to obtain the desired moisture in the pulp. It is well known that higher temperatures and pressures reduce reaction times. LUNAN et al teaches that higher pressures of 225 kPa (17 psig) can be used during pre-steaming in a TMP process, compared to the conventional atmospheric pressure, by

using short steaming times, e.g. 16 seconds or lower. It would have been obvious to the routineer that higher pressures can be used without deleterious effects, if shorter times, e.g. 16 seconds or less, were used in the pre-steaming stage of CEDERQUIST as such is taught by LUNAN et al, see page 239, column 2, lines 13-18. See also, LUNAN et al, page 239, last paragraph and page 240, column 2, first paragraph. It would have been obvious to use the same pressure in the pretreatment stage and the refiner, e.g. 228 kPa or 17 psig as such is taught by LUNAN et al, column 2, first paragraph of page 240. Applicant uses the same type of apparatus to compress and destructure the fibers, e.g. a screw press, used by CEDERQUIST et al. The “destructuring the fibers without significant breakage across grain boundaries” is a direct result of the “conditioning” of the fibers. The same “conditioning” is taught by the applied art. At best Applicant is optimizing the “conditioning” of the prior art. There is a reasonable expectation that the conditioning of the prior art would yield a feed material having the desired amount of destructuring. *In re O'Farrel*, 7 USPQ2d 1673, 1680-81. In any event, it is well settled that an artisan with ordinary skill would have found it obvious to determine workable or even optimum values for an art recognized, result effective parameter, such as the proper amount of compression, *In re Boesch*, 205 USPQ 215, 219; *In re Aller*, 105, USPQ 233, 235. If the compression ratio is not obvious over CEDERQUIST et al, then the use of a compression ratio of at least 4:1 is taught by PRUSAS et al (column 4, lines 41-43 and column 8, lines 17-23) or EP 0 034 560 or MINTON. It would have been obvious to compress the material of CEDERQUIST et al in the manner taught by PRUSAS et al or EP 0 034 560 (column 3, lines 21-23) or MINTON (column 3, lines 17-24) to prepare the fibers for refining by reducing the moisture content and/or destructuring the fibers. It would have been especially obvious to use higher presteaming

temperatures, e.g. above 100 deg. C, and higher corresponding steam pressures, as such is taught by PRUSAS (column 4, lines 41-49). Thermo-mechanical pulp (TMP) is produced in a thermo-mechanical process where wood particles are softened by steam before entering a pressurised refiner. This does not differ from the process of CEDERQUIST. Thus CEDERQUIST is a TMP process which performs the same 3 steps as the instant process. Applicant has not compared the instant process to the process of CEDERQUIST. Example 1 of the specification compares a single high temperature preheating stage to a process with a low temperature preheating stage. This is not the closest prior art. CEDERQUIST teaches the same low temperature-high temperature (e.g. above glass transition temperature) treatment disclosed by Applicant. The second pretreatment stage of CEDERQUIST teaches using temperatures above 100 °C, preferably temperatures of 130-200 °C (CEDERQUIST, column 2, lines 19-20, column 3, lines 22-23 and last 2 lines). Applicant's arguments have been considered, but are not convincing as the use of the claimed pressures in the pre-steaming stage and the refiner would have been obvious from the teachings of LUNAM et al.

When filing an "Official" FAX in Group 1730, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file. The "Official" FAX phone number for this TC 1700 is: 703-872-9306.

Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **571-272-1185**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on **571-272-1189**.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **571-272-1700**.

A handwritten signature in black ink, appearing to read 'Steve Alvo', with a stylized, cursive script.

**STEVE ALVO**  
**PRIMARY EXAMINER**  
**ART UNIT 1731**

MSA  
January 11, 2004